



June 2008  
Volume 2, Issue 2

# NVSHHP NEWS

*Mission: The mission of the Nevada Society of Health-System Pharmacists is to advance and support the practice of pharmacy in the health-systems and serve as a collective voice on issues related to medication use and public health.*

## By the numbers

Current  
Membership Total: 110

Pharmacists: 64

Technicians: 13

Student Pharmacists: 22

Student Techs: 6

Retired Pharmacists: 3

Residents: 2

## Inside this Issue

ASHP Delegates Report 2

Technician Corne 3

USN Drug Abuse  
Awareness Team 3

2007-2008 NV Residents  
& USN Graduates 4

Legislative News 5

Current NVSHHP  
Members 6

Hot Topic:  
Contaminated Heparin 7

Immunization Certification  
Program through USN 8

We welcome your  
questions, comments  
or corrections!

Please contact:  
NVSHHP Newsletter Editor  
Carrie Chalverus,  
Pharm.D., BCPS  
cchalverus@gmail.com

## NVSHHP First Annual Meeting – Mark Your Calendar

Saturday

October 18<sup>th</sup>, 2008

## Blazing New Trails in Nevada Pharmacy

Location: Springs Preserve  
Las Vegas, Nevada

- ❖ A great way to kick off Pharmacy Week!
- ❖ 6 hours of ACPE Accredited Continuing Education!
- ❖ Breakfast, Lunch, and Evening Reception included in the registration!
- ❖ Vendor Exhibits!
- ❖ Pharmacists, Technicians, Residents and Students are welcome!
- ❖ Tour the beautiful grounds and museums located on the Springs Preserve!

**Join NVSHHP TODAY for Member Discount on Registration!**

Watch your mailbox and email for more information or visit [www.nvshp.org](http://www.nvshp.org)

## Words From the President



Julie Rodgers, NVSHHP President

"The secret of success is to start from scratch and keep on scratching." As I reflect over the past year and a half, the accomplishments of NVSHHP are remarkable. From non-existence to a nationally recognized organization, NVSHHP has made substantial progress. The good fortune of dedicated members has graced NVSHHP from the start. We need the enthusiastic commitment to continue to grow. Now is the time to get involved

and advance the causes of our profession. Joining and participating in NVSHHP will not only benefit you but also serve as a model for others. Our very first annual meeting is around the corner and there is not a better time to take advantage of the opportunity to help shape the future of NVSHHP.

Sincerely,

*Julie*



## Bowl of Hygeia Award – Nevada, 2008 Paul Oesterman, Pharm.D.

For nearly 50 years, the Bowl of Hygeia award program has recognized outstanding achievements in community service by pharmacy professionals. The award is presented to one individual from each of the 50 states yearly. This year's recipient for Nevada is Paul Oesterman, Pharm.D.

Oesterman accepted a position with Kaiser Permanente in Northern California. At both the hospital and at Kaiser, Dr. Oesterman continually mentored pharmacy students, and in 1983 was awarded the State of California Preceptor of the Year award. Throughout his tenure, he participated in numerous community service projects including coordinating Su Salud Health Fairs, serving on the Habitat for Humanity Family Selection Committee, and helping coach youth sports teams. In 2001, Dr. Oesterman relocated to Las Vegas where he accepted a position as a Clinical Consulting Pharmacist with

Merck-Medco and worked per diem at a number of retail sites. In May 2005 Dr. Oesterman became the early Experience Coordinator and Assistant Professor of Pharmacy Practice at USN. Dr. Oesterman continues to serve the profession and community by continuing his service to Habitat for Humanity, being selected as a member of the State of Nevada Drug Utilization Review Board in 2006, serving on the Medical Reserve Corps since 2006, regularly assisting with Community Health Fairs, and serving since 2007 as a co-advisor for the locally and nationally recognized Drug Abuse Awareness Team.

**Congratulations to Dr. Paul Oesterman! – 2008 Recipient of the Bowl of Hygeia Award for Nevada**

Dr. Oesterman earned his Doctor of Pharmacy degree from the University of Pacific in Stockton, California in 1976. After one year at a small rural independent pharmacy, he became Director of Pharmacy Services for Lodi Community Hospital. After 13 years at the hospital, Dr.

## Nevada's ASHP Delegates Attend Regional & Summer Meeting

Caryn Bing, NVSHP Treasurer & ASHP Delegate, Nevada



NVSHP Member Dennis Fuller and Treasurer Caryn Bing attended the ASHP Regional Delegates Conference (RDC) in May in Las Vegas. This was in preparation to serve as elected representatives from Nevada to the 60th Meeting of the ASHP House of Delegates in Seattle, WA June 8-11, 2008. Dr. Fuiller and Ms. Bing ensured that Nevada's delegation actively participated in key policy discussions --first at the RDC-- then during debate and voting on the floor of the House of Delegates (HOD) and in

caucuses with other states during the Summer Meeting. NVSHP Director Tracie Balvanz also attended the Seattle meeting as an Alternate Delegate.

criteria for an intermediate category of drug products, and regulation of dietary supplements. The HOD also approved a resolution to encourage federal agencies, the pharmaceutical industry, and others to explore the potential benefits of modifying NDC's to a coding system that works well across the continuum of medication use

The ASHP delegates approved new professional policies on a broad range of issues. These include a statement on the role of pharmacists in emergency departments, support for ASHP accredited technician training programs as a prerequisite for the PTCB exam, disclosure of excipients in drug products,

ASHP's new officers were installed during the HOD on June 10. Kevin J Colgan was installed as President and John A. Armitstead and Janet Mighty as Directors. Teresa J. Hudson was re-elected to a one-year term as Chair of the House. For more details, go to [www.ashp.org](http://www.ashp.org).

**Top:** Dennis Fuller and Caryn Bing, NV delegates to ASHP House of Delegates, with Kevin Colgan, ASHP's current President (center) at the ASHP Regional Delegates Conference May 3-4<sup>th</sup> in Las Vegas, NV.

**Bottom:** Caryn Bing (on right) talks with Scott Meyer of Illinois and Lisa Lunn of California about a pending ASHP policy on uniform state laws and regulations regarding pharmacy technicians. Picture courtesy of Lagniappe Studio, Inc.



## NVSHP Well Represented at ASCP Midyear Meeting



The American Society of Consultant Pharmacist's (ASCP) 30<sup>th</sup> Midyear conference Geriatrics '08 took place at Caesars Palace May 14-16, 2008. Topics included clinical sessions on insulin, combating dizziness, and medication therapy management interventions to name a few. Business and management as

well as legislative and regulatory initiatives were also part of the educational programming.

Our very own Shelly Spiro, NVSHP Legislative Committee chair, is a candidate for 2008-2009 President-Elect (<http://www.ascp.com/about/spiro.cfm>). Debbie Bieber, NVSHP Director-at-Large, is also a candidate for the 2008-2009

board of directors (<http://www.ascp.com/about/Bieber.cfm>).

ASCP is the acknowledged leader in consultant and senior care pharmacy. To have representation from NVSHP members is quite an honor for this prominent national organization!

**NVSHP Members Getting Involved:** Shelly Spiro (left) & Debbie Bieber (right) are both candidates for next year's ASCP Board

## Technician Corner – Latest PTCB Numbers for Nevada

Joanie MacIntosh, NVSHP Technician Representative

This past May, the Pharmacy Technician Certification Board reached a significant milestone in its history; 300,000 pharmacy technicians have officially been designated *Certified Pharmacy Technicians (CPhT)* through successfully completing the national *Pharmacy Technician Certification Examination* or transfer process since the program inception in 1995. For the exam dates of 11/26/2007 to 12/31/2007,

Nevada had 57 candidates sit for the certification exam. NVSHP congratulates all of the 44 candidates who successfully passed the exam. This exam period showed a 77% passing rate. The national summary for the year of 2007 had 45,044 candidates sit for the exam with a 70% passing rate. We have pharmacy technicians work in retail pharmacies, hospitals and health-systems, nursing homes, mail-order

pharmacies, and other pharmacy locations.

And the numbers above show the field is growing - Did you know that the career of pharmacy technician was named one of the 30 top jobs of 2008 by [CareerBuilder.com](http://CareerBuilder.com)?

Again, NVSHP congratulates all of these hardworking pharmacy technicians – great job!



**Technicians – What would you like to see NVSHP do for you?**

Email Joanie MacIntosh ([jmacbank@yahoo.com](mailto:jmacbank@yahoo.com)) with your suggestions!

## Pharmacy Student Corner – Spotlight on Drug Abuse Awareness Team

Erica Zelickowski, PharmD Candidate 2009, DAAT Co-Founder

Recent research has indicated that prescription drug abuse will soon exceed illicit drug abuse among teens unless further actions are taken to slow the progression. With this societal trend in mind, 4 student pharmacists from the University of Southern Nevada (USN) teamed up with faculty members Dr. Paul Oesterman and Dr. Allison Welder to form the Drug Abuse Awareness Team (DAAT).

The team's primary mission is to educate students in the Clark County School District (CCSD) about the consequences associated with misuse of prescription and OTC drugs. After receiving approval from administrators of CCSD to deliver their PowerPoint presentation to students in

grades 8-12, the team has visited 7 schools in the past year reaching over 1000 CCSD students.

After forming an alliance with the Las Vegas Metropolitan Narcotics Division, the team branched out to further educated over 120 new teachers of CCSD at the New Teachers Conference, and local police and narcotics officers. Moreover, by way of interviews with Channel 8 Eyewitness News on 3 occasions, KNPR radio, and the Las Vegas Review Journal, the team has heightened community awareness about prescription drug abuse trends. Taking their message to a national level, DAAT leaders delivered a poster presentation at the 104<sup>th</sup> Annual National Association of Boards of Pharmacy Meeting, resulting in

newly formed alliances with multiple state boards of pharmacy, the Partnership for a Drug Free America and the FDA. Representatives of the FDA were especially pleased with DAAT's success and offered to link to the DAAT website, which is currently under construction.

DAAT's hard work and accomplishments have not gone without thanks. The team has acquired 3 awards: two from the United States Public Health Service (US PHS) and one from the Las Vegas Review Journal who proclaimed DAAT a *Profile in Courage*.

DAAT continues to forge ahead and broaden its horizons. After expanding DAAT to USN's Utah campus, initiation of DAAT chapters in pharmacy schools



around the nation has been in the forefront of DAAT's plans. Other plans include poster presentations at the 2008 US PHS Scientific and Training Symposium and the 2008 American Association of Colleges of Pharmacy Meeting. However, the team's primary focus remains in educating CCSD students about the dangers associated with misusing prescription and OTC drugs.



University of Southern Nevada's Drug Abuse Awareness Team gathers at USN

**Right:** John Nguyen discusses inappropriate uses of prescription medications at Duane Keller Middle School



**Left:** Also at Duane Keller Middle School, Nathan Boseat reviews opioids with students.

*“Residencies provide unique opportunities to explore different aspects of pharmacy as a licensed practitioner. No other training allows a pharmacist to gain vast amounts of experience in such a short period of time.”*

—Brian Cohen, Pharm.D, former resident, University of Kansas Medical Center, Kansas City, ASHP Brochure



**\*Special Congrats to our NVSHP Student Members!**

## NVSHP Congratulates Nevada’s Pharmacy Residents

Another residency year is coming to a close in Nevada and NVSHP would like to recognize and congratulate the following Pharmacy Practice Residents:

Jeffrey Mandel – VA Southern Nevada Healthcare System

Graduate of University of Southern Nevada, also completed his MBA this year. He will be continuing his advancement in the healthcare field by relocating to Corpus Christi, TX to work as a Director in Training with Cardinal Health.

Matt Martin – VA Southern Nevada Healthcare System

Graduate of University of Arizona. He will be returning to his home town of Tucson, Arizona where he has taken a position at the Southern VA Healthcare system.

Thu D. Tran – VA Southern Nevada Healthcare System

Received her pharmacy degree from the University of California,

San Diego. She is currently pursuing inpatient positions in Sacramento, California.

Jessica Meier – Renown Regional Medical Center

Graduate of the University of Colorado School of Pharmacy. Has taken a clinical pharmacist position at the VA Sierra Nevada Healthcare System, Reno, NV.

Jason Parrish - VA Sierra Nevada Healthcare System

Graduate of the University of Southern California School of Pharmacy. Pursuing a Specialty Residency in Pharmacoeconomics at the VISN21 Sierra Pacific Network, Reno, NV.

Tara Purvis - VA Sierra Nevada Healthcare System

Graduate of Palm Beach Atlantic University School of Pharmacy. Pursuing a Specialty Residency in Psychiatric Pharmacy at Western Missouri Mental Health Center, Kansas City, MO.

Jessica Thompson - VA Sierra Nevada Healthcare System

Graduate of Southwestern Oklahoma State University School of Pharmacy. Pursuing a Specialty Residency in Infectious Diseases at Oklahoma City VA Medical Center, Oklahoma City, OK.

Michelle Manley – University Medical Center

Will be practicing at UMC upon completion of her Residency.

Laura Jordan – University Medical Center

Will be practicing at UMC upon completion of her residency.

Travis Merkle – University Medical Center

Will be practicing as a clinical pharmacist in the ICU at St. Rose Siena.

Jenny Liou – University Medical Center

Will be moving to New York City.

## University of Southern Nevada 2008 Graduates, NVSHP Congratulates You!

Aida Arjomandzadeh  
Melissa Asarch  
Lisa Asato  
Steven Aun  
Anna Barseghyan  
**\*Rehan Bashir**  
Megan Beagley  
Jason Bigelow  
Dotti Britt  
Todd Brown  
Pamela Burt  
Lisa Camp  
Rayna Carpio-Reaños  
Lisa Chung  
Garrek Clark  
Zlatan Coralic  
Jessica Dellinger  
Kevin-Minh Do  
Karsten Duncan  
Chidi Esomonu  
Daniel Eyre  
Yetunde Faleye  
Denise Farro  
Basil Fikaris  
Christopher Fork  
Michelle Gano  
Matthew Gomes  
Melissa Gomez  
Lindsay Gonzales  
Justin Guernsey  
Karim Guirguis  
Simon Han  
Satoko Handa  
Michael Hanks

Joshua Harding  
Tiffany Herrgott  
Erica Hester  
Heidi Hoff  
Nhu Hong  
Stephen Ingleheart  
Amy Jenkins  
Carolyn Johnson  
Maren Johnson  
May Joseph  
Ye-Fung Kao  
Mandy Kazminky  
Nili Khademi  
Farrah Khan  
Christine Kircher  
Jeffrey Lang  
Charles Larson  
Ashley Latina  
John Lau  
An Le  
Linchi Le  
Danielle Leesman  
Jodi Levell  
Davita Lewis  
Jiansheng Li  
Susan Lim  
Cynthia Lindgren  
Kimberly Logsdon  
Daniel Luttrull  
Lee Luu  
Ryan Mai  
Nicole Maier  
Faiza Malik  
Yumi Malinis

David Margraf  
Alison Marli  
John McClure  
Chirag Mehta  
**\*Jennifer Middleton**  
Rosa Millero  
Momo Mochida  
Neta Mostadim  
Binyam Negash  
Natalie Neilson  
Duong Nguyen  
Hoa Nguyen  
Huynh Nguyen  
Martine Nguyen  
Ngoc Nguyen  
Phu Nguyen  
Thanh Nguyen  
Temitope Omotayo  
David Oyawale  
Kathryn Patrick  
Melissa Pease  
Jennifer Petchsaiprasert  
Alex Peterson  
Andria Peterson  
Bethanie Peterson  
Tracy Pham  
Thuhai Phamle  
Hien Phan  
Lijan Puthuvalil  
Sana Rawala  
Karen Rosati  
**\*Angela Rosenblatt**  
Andrew Roth  
Christine Rualo

Kimya Safatian  
Carolyn Saghian  
Emanuel Sas  
Nathan Scott  
**\*Seema Siddiqui**  
Marcella Sidelnik  
Joginderpal Singh  
Stacy Smith  
Christine Spradley  
Josua Stanley  
Fiona Steele  
Laura Strickler  
**\*Randall Strong**  
Oliver Swafford  
Catherine Tabe-Ebob  
Paul Taylor  
Jennifer Telan  
Ginny Thompson  
Annie Ton  
Ashley Tran  
Tuan Tran  
Venerando Umali  
Nancy Valentin  
Eric Van Meter  
Tiffanie Vo  
Dustin Wagstaff  
Lori Whittle  
Elissa Williams  
Han Wong  
Victoria Wong  
Valantina Yako  
Eun-Hyung Yi  
Lita Yonzon  
Juliane Zubia

## Legislative Committee - Keeping You Up to Date

The NVSHHP Legislative Committee holds monthly conference calls, the first Friday of the month at 12noon. At least one of our members participates on the monthly ASHP State Affiliate Legislative conference calls as well as at the Nevada Board of Pharmacy (BOP) meetings. Here are some of the hot topics from the past few months:

- NVBOP: Pharmacists Practicing Outside of a Pharmacy (new regulation). Pharmacists may apply to be allowed to practice outside of a pharmacy by appearing before the Board and submitting a description of the services, hours, location, business and payment model, scope of practice, resources, confidentiality and security of patient data. The provisions of this new regulation do not apply to any pharmacist who provides services pursuant to the following regulations:
  - NAC 639.465(2) – Hospitals with less than 100 beds; or Correctional Facilities housing less than 1,500 inmates
  - NAC 449.15347 – Facilities for modified medical detoxification
  - NAC 449.6138 – Independent centers for emergency medical care
  - NAC 449.722 – Intermediate Care Facilities
  - NAC 449.9905 and 639.4996 – Ambulatory Surgical Centers
  - MTM program approved pursuant to 42 CFR section 423.153.
  - NOTE: NVSHHP and ASCP recommended the following regulations also be excluded: NAC 449.74531(f) Skilled Nursing Facilities, and NAC 639.690(g) Compounding and Dispensing Parenteral Solutions. The regulations may be finalized at the June BOP meeting in Reno.
- NV BOP: Compounding Committee met April 24<sup>th</sup> to finalize recommendations for the BOP's Regulations following USP<797> Revisions. The new compounding language was presented at the public hearing at the BOP meeting June 5<sup>th</sup> in Reno.
- NV: Law CE sessions being planned with the Education Committee for August in the north and south and at the October Annual Meeting in Las Vegas.
- NV: State Legislative Day being planned along with other associations/agencies as a way for healthcare professionals to lobby or discuss issues with state legislators.
- ASHP: As of 01/01/08, CMS requires pharmacies to report NDC#s of dispensed medications to State Medicaid agencies. ASHP has been working diligently to delay or eliminate this requirement for hospitals and health systems, however in Nevada, this requirement has been accepted. This primarily effects hospital outpatient departments and home health care pharmacies.
- ASHP: A new Senate bill includes pharmacists in the loan forgiveness program now, where previously pharmacists were not included. Work continues in the House version of the bill so that there is similar language and pharmacists are included. Currently, the National Health Service Corps allows pharmacists who practice in rural/under serviced areas to have school loans forgiven.

***“Pharmacists may apply to be allowed to practice outside of a pharmacy by appearing before the Board”***

## Spotlight on June NV Board of Pharmacy Meeting

On June 5, 2008, at the Nevada State Board of Pharmacy Meeting held in Reno. Many amendment changes to regulations affecting health-system pharmacists and pharmacies were heard in the workshop and public hearing forums. At the workshop, amendment changes to the NAC 639.240 regulation for pharmacy technician training, added certification by the Institute for the Certification of Pharmacy Technicians if the applicant successfully completed training programs from another state.

There were quite a few changes to NAC 639.2971 for immunizing pharmacists. The age for immunizations was discussed with recommendations to lower the age to two or even to include infants. Many of the restrictions were removed making it easier for pharmacists to immunize patients. The last change was requiring pharmacists to follow the statewide immunization registry that is maintained by the Health Division of the Dept of Health and Human Services.

The final workshop item was amendments to NAC 639.4992 and 4996. With the change in status for the Ambulatory Surgical Centers to be considered institutional B pharmacies, the responsibilities of the pharmacist have changed. The changes will give more authority to the pharmacist to ensure that the surgery centers are complying with the regulations.

The public hearing for NAC 639.480 added parameters for drug room inspections in correctional facilities to this regulation and was passed. The Board passed a new regulation to NAC 639 for pharmacists practicing outside of a pharmacy. This new regulation has broadened the scope of practice for all pharmacists. The last pertinent regulation passed unanimously was what has been considered the "Compounding Regs". The Board has finalized the changes that were needed in our pharmacy regulations ever since USP 795 and 797 were changed and published. To find out more about these amended regulations, visit the Board of Pharmacy website at: [www.bop.nv.gov](http://www.bop.nv.gov) or call the Board office.



## Membership Committee – Recognizing NVSHP’s Current Membership

Adams, Wayne	Foster, Lorin	Pallini, Christine
Allen, James	Fox, Robert	Patel, Meeta
Allen, Susan	Gordon, Margaret	Pollard, Sacha
Ann, Steve	Gunes, Murat	Powell, Karen
Bailey, Corrine	Gusakov-Mason, Mary Ann	Quach, Diana
Balvanz, Tracie	Hager, Robin	Quach, Tri
Bashir, Rehan	Henderson, Hediye	Randolph, Tamisha
Bieber, Debbie	Higgins, Diana	Rassuchine, Alex
Bing, Caryn	Hill, Wanda	Rejali, Ali Reza
Brokow, Kathryn	Holly, Sue	Rejali, Maryam
Brunton, Mark	Hubbard, Joseph	Robison, Debra
Bryan, Lisa	Isaacs, Lori	Rodgers, Julie
Cantrell, Wendy	Kaiser, Albin	Rogers, Adam
Carling, Yelena	Khader, Diana	Rohr, William
Carmichael, Jannet	King, Brenton	Rollins, Galina
Chalverus, Carrie	King, Jamie	Romero, Veronica
Chinn, Lawrence	Lee, Tamara	Rosenberg, Harry
Christensen, Kelly	Licos, Anne Marie	Rosenblatt, Angela
Chu, Evelyn	MacIntosh, Joan	Rosenblatt, Jeffrey
Coffman, Renee	Madison, Christina	Santiago, Adrienne
Coleman, Bartholomew	Magallon, Heather	Siddiqui, Seema
Conforti, Rachel	Mambourg, Scott	Simon, Gil
Craven, Kathryn	McDade, Wendy	Smith, Donna Jean
Crawford, Sonya	Merkle, Travis	Smith, Katherine
Dalton, Tina	Middleton, Jennifer	Spiro, Rachelle
Dennis, Yukiko	Miller, Katherine	St. Hill, Andrea
Desai, Rajen	Minnich, Brian	Stander, Mike
DeYoung, Micahel	Moser, David	Staples, Mary
Dodge, Claudia	Mulcair, Christine	Strong, Randy
Edgecomb, Denise	Mutchler, Moriah	Tao, Wayne
Efstathiou, Dimitris	Muzyk, Tara	Tefferi, Josephine
EiHalta, David	Nakhle, Danielle	Tran, Hoang
Erikson, Avis	Nguyen, Son	Tunrarebi, Kemi
Esposito, Tina	Nissen, Wendy	Williams, Susan
Fey, Julie	Oesterman, Paul	Woodington, Gretta
Filby, Kyle	Olson, Christopher	Yamada, Mikiko
Foster, Beth	Ortlipp, Karen	

**Make sure  
you’re on  
the next list  
of NVSHP  
Members -  
Join Now or  
Renew Your  
NVSHP  
Membership  
today!**

**Want to get  
more involved?  
Join one of the  
NVSHP  
Committees**

**Email  
[nvshpinfo@gmail.com](mailto:nvshpinfo@gmail.com)  
and let us know where  
you’d like to help!**

## Education Committee – Planning 1<sup>st</sup> Annual Meeting

The Education Committee’s first order of business has been to plan the first Annual NVSHP Meeting for this fall. We are pleased to announce that the NVSHP 1<sup>st</sup> Annual Meeting will be held at Springs Preserve from 9:00am – 7:30pm on October 18<sup>th</sup>, 2008 just in time to kick off Pharmacy Week! This meeting promises to have something for EVERY pharmacist currently

working in a Health-System Pharmacy, as well as students & technicians. A total of 6 hours of ACPE Accredited Continuing Education will be offered during the meeting. Tour the Vendor Exhibits as well as the Poster Presentations. Please join us at the beautiful Springs Preserve and tour the museums and grounds in addition to receiving great pharmacy education.

Breakfast, Lunch, and Evening reception are included in the registration cost. Get involved in Nevada’s Pharmacy FUTURE by participating in the ONLY state pharmacy organization for Health-System Pharmacists. Network with colleagues and enjoy ALL the benefits of an NVSHP membership.

## HOT TOPIC: Contaminated Heparin an International Problem

Galina Rollins, Pharm.D. Candidate, Class of 2009  
University of Southern Nevada

In the 1916, Jay Mclean, a second year medical student at John Hopkins University, discovered the existence of a natural anti-coagulant produced by basophiles and mast cells. In the 1920s, William Henry Howell named this substance heparin and discovered that heparin is a member of the glycosaminoglycan family of carbohydrates. Heparin prevents the extension of clots that have already formed or the formation of new clots by the inhibition of conversion fibrinogen to fibrin. The first human trial was conducted in 1935. Later, in the 1936, Connaught Medical Research Laboratories perfected a technique for producing heparin that could be safely administered to patients. Drug trials continued through 1937, and showed clearly that heparin was an effective and safe blood anticoagulant. Since then, this drug has been in widespread use in clinical practice.

Heparin is used as an injectable anticoagulant for patients with acute coronary syndrome, atrial fibrillation, deep-vein thrombosis, pulmonary embolism, and cardiopulmonary bypass surgery. It can also be used to form an inner anticoagulant surface on various medical devices such as test tubes or renal dialysis machines.

One of the leading pharmaceutical companies, Baxter International, manufactures and markets approximately 50% of the heparin prescribed in the US. Pharmaceutical grade heparin is derived from porcine intestine and bovine lungs. During the 1990's, heightened concern over mad cow disease forced suppliers of drugs companies to shift from the bovine lung derived product to porcine intestines as the primary source for pharmaceutical grade heparin. Today, China is the world's largest producer of raw heparin and is the current supplier to Baxter International.

The number of adverse reactions to heparin produced by Baxter International spiked this past winter in the United States. Less than 100 adverse reactions were reported during all of 2007, but during the first 6 weeks of 2008, there were four deaths and a total of 350 reports of adverse effects attributed to administration of a Baxter heparin product. The adverse reactions included difficulty breathing, nausea or vomiting, abdominal pain, and rapidly falling blood pressure, which can lead to life-threatening shock. Many of the reactions were experienced by patients receiving bolus doses of heparin and occurred minutes after administration. These events led to Baxter's recall of all the lots and doses of its heparin sodium injection multi-dose, single-dose vials, and HEP-LOCK heparin flush products on February 28<sup>th</sup>.

*“Less than 100 adverse reactions were reported during all of 2007, but during the first 6 weeks of 2008, there were four deaths and a total of 350 reports of adverse effects attributed to administration of a Baxter heparin product.”*

Baxter scientists have determined that the drug's active ingredient, which is manufactured in China, was contaminated with over-sulfated chondroitin-sulfate. They have also confirmed that this contaminant can cause hypotensive reactions. Using animal models, it has been found that the response was dose-dependent: an increase in the amount of chondroitin-sulfate led to greater decrease in blood pressure.

This discovery has raised a number of serious concerns regarding the manufacture of active pharmaceutical ingredients overseas. One principle concern is that the overseas manufacturers may not fully comply with current Good Manufacturing Practices (GMPs). Baxter's Chinese supplier, Changzhou SPL was never inspected by the Food and Drug Administration, nor was it registered with Chinese drug regulators as required. Of even greater concern is the possibility that the contamination was intentional. Chondroitin-sulfate that was found in Baxter's lots is not native to heparin. It is made from pig cartilage and can exhibit anticlotting properties when it is oversulfated.

Other large companies such as B Braun and Covinien initiated a voluntary recall of their heparin products as well due to the same contaminant, which was supplied by the same source- Changshou SPL.

FDA officials announced that contaminated ingredients used in the manufacture of heparin products were sold in 11 countries, making this a global problem. It was emphasized by Janet Woodcock, director of FDA's Center for Drug Evaluation and Research, that fractionated heparin products currently available on the US market are safe to use. Currently, heparin is in short supply, but each of Nevada's institutions mitigates this situation by working closely with prescribers. American Society Health-System Pharmacists (ASHP) provides valuable information on drug shortage data, which can be checked at the ASHP website ([www.ashp.org](http://www.ashp.org)) under the Drug Product Shortages Management Resource center.

**GET YOUR WORK PUBLISHED!! Have you recently written something that you'd like to share with NVSHIP members? Consider submitting it to the next newsletter! Please send your submission to [nvshpinfo@gmail.com](mailto:nvshpinfo@gmail.com).**



c/o University of Southern Nevada  
College of Pharmacy  
Attn: Jeffrey Rosenblatt  
11 Sunset Way  
Henderson, NV 89014

E-MAIL:  
[nvshpinfo@gmail.com](mailto:nvshpinfo@gmail.com)

#### NVSHP Board Members

President: Julie Rodgers  
(julie.rodgers@va.gov)

President-Elect: Kathryn Craven  
(KHC@att.net)

Secretary - Diana Quach  
(diana.spiro@gmail.com)

Treasurer - Caryn Bing  
(cbing@criticalcaresystems.com)

Director-at-Large (Education): Tracie  
Balvanz (tracie.balvanz2@va.gov)

Director-at-Large (Legislative): Debbie  
Bieber (debbiebieber19@msn.com)

Director-at-Large (Membership): Jeffrey  
Rosenblatt (jrosenblatt@usn.edu)

Technician Representative: Joanie  
MacIntosh (jmacbank@yahoo.com)

Student Representative: Wendy Nissen  
(wnissen@student.usn.edu)

[www.nvshp.org](http://www.nvshp.org)

## Immunization Certification offered through USN

Would you like to be Certified to Immunize Patients?  
USN will be sponsoring the  
**Pharmacy-Based Immunization Delivery Program**  
created by APhA during the first week of August at Sunrise Hospital.  
Please call or email Katherine Smith ([ksmith@usn.edu](mailto:ksmith@usn.edu), 702-968-2010) or LaToya Conners ([lconners@usn.edu](mailto:lconners@usn.edu), 702-968-2086) for more information.

## Annual Meeting Call for Posters and Presenters

The 1<sup>st</sup> Annual Meeting held this fall, October 18<sup>th</sup>, 2008 is a great place to showcase your work to your peers! Please consider submitting your poster for presentation at the meeting. You can send your topic for submission to [nvshpinfo@gmail.com](mailto:nvshpinfo@gmail.com).

In addition, if you have a topic you'd be willing to present at the Annual meeting, please let us know, ASAP! For ACPE Accreditation, the sooner the better!

**Showcase your work, submit a poster to NVSHP!**

**→Reminder, be sure to renew your membership...**

NVSHP members, it's time for your annual NVSHP membership dues!

pay using PayPal by going to [www.nvshp.org](http://www.nvshp.org) and selecting Renew!

the invoice that was emailed to you and payment by check by mail.

You have several options for processing your membership renewal at your earliest convenience.

You may also update your information on the website, [www.nvshp.org](http://www.nvshp.org), and remit payment with a check by mail.

Please feel free to email us a [nvshpinfo@gmail.com](mailto:nvshpinfo@gmail.com) if you have any questions or have any further questions.

You may update your membership information and

You may also send a copy of

### Nevada Society of Health-System Pharmacists

c/o University of Southern Nevada  
College of Pharmacy  
Attn: Jeffrey Rosenblatt  
11 Sunset Way  
Henderson, NV 89014



**Mission:** *The mission of the Nevada Society of Health-System Pharmacists is to advance and support the practice of pharmacy in the health-systems and serve as a collective voice on issues related to medication use and public health.*

